

Self Generation

- A variety of customers require station power or standby service from Consumers Energy
 - Independent Power Producers
 - Gas Generating Stations
 - Wind Farms
 - PURPA Facilities
 - Landfill Gas
 - Biomass Wood Waste
 - Hydro Facilities
 - Cogeneration Facilities
 - Customer-Owned Power Plant (Coal & Natural Gas)
 - BioDigesters (Dairy Farms)
 - Waste Water Treatment Biogas
 - Solar/Wind Installations

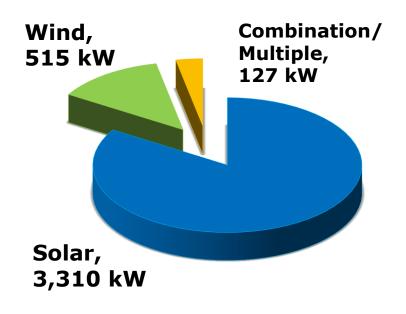


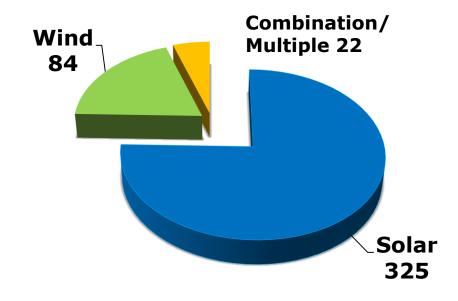
Self Generation Rates

- Consumers Energy provides station power and stand-by service to customers under several rate configurations
 - General Service Self-Generation Rate GSG-2
 - Generating Units greater than 550kW
 - Self-Generation Provision SG (formerly GSG-1)
 - Generating Units less than 550kW
 - General Primary GP (grandfathered)
 - Energy Only Rate
 - Net Metering
 - Category 1 20kW systems and lower
 - Category 2 20kW to 150kW systems
 - Category 3 Methane Digesters >150kW



Net Metering kW & Installations





Category 1 Total (< 20kW) = 2,414 kW Capacity

Category 2 Total (20 - 150kW) = 1,538 kW Capacity

Category 1 Total (< 20kW) = 409 Installations

Category 2 Total (20 – 150kW) = 22 Installations



Self Generation Provision - SG

- Customers with generation less than 550kW pay normal full service rate
- Applicable to most of the Company's Full Service Residential, Secondary General Service and Primary Rate Schedules
- No reservation or special standby charges

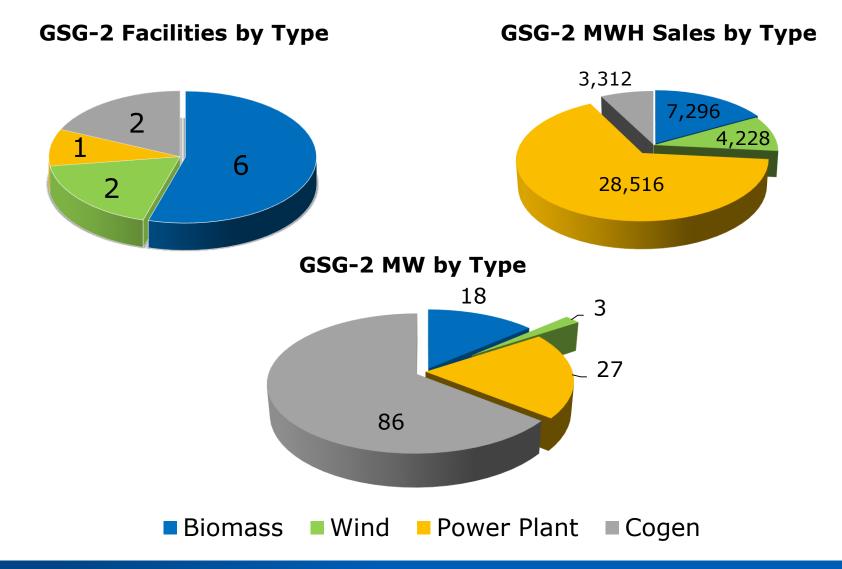


General Self Generation GSG-2

- 8 GSG-2 Customers in 2015
- Annual Sales 43,000 MWHs
- Annual Revenues \$3 million
- Average cost = 6.87 cents/kWh



GSG-2 Customers, MWH and MW





GSG-2 Standby Charges

- Power Supply
 - Standby energy supplied by the Company is priced at the LMP plus settlement fee \$0.002/kWh
 - On-Peak Capacity Charge = Highest Contracted Capacity for the Month (Prorated Based on On-Peak Periods)
 - Allocated Transmission costs
- Delivery
 - Monthly System Access Charge \$100
 - Capacity Charge per kW of Standby Demand
 - Equivalent to Rate GDP Max Demand Charges



GSG-2 Tariff

Delivery Standby Charges:

System Access Charge:

Generator that does not meet or exceed load: \$100.00 per generator installation per month

Generator that meets or exceeds load: \$200.00 per generator installation per month

Customer Voltage Level 3 (CVL 3)
Capacity Charge: \$4.05 per kW of Standby Demand

Customer Voltage Level 2 (CVL 2)
Capacity Charge: \$2.25 per kW of Standby Demand

Customer Voltage Level 1 (CVL 1)
Capacity Charge: \$0.62 per kW of Standby Demand



Large Industrial Customer 7 MW peak demand, CHP 60% annual usage

ĺ	Firm Load			GSG-2			100% Load Standard Rate		
	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> \$000	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> \$000	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> <u>\$000</u>
Power Supply									
On Peak Billing Demand MW	40	17.514	697				82	17.466	1,429
On Peak Energy Mwh	5,566	0.044	244				13,719	0.044	599
Off Peak Energy Mwh	9,378	0.034	316				30,904	0.034	1,046
On Peak Capacity MW				44	1.573	69			
Standby kWh-Energy				3,093	0.034	107			
Delivery Charges									
System Access	12	0.100	1				12	0.100	1
Max Demand MW¹	44	0.620	27				86	0.620	53
Generator Metering				12	0.100	1			
Contract Capacity MW ¹				42	0.620	26			
Sub-Total			\$1,286			\$203			\$3,128
Total					\$0.083	\$1,489		\$0.070	\$3,128

Note 1: Max Demand + Contract Capacity = 86 MW



Large Commercial Customer 1 MW peak demand, Solar 58% annual usage

		GSG-2		100% Load Standard Rate				
	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> \$000	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> <u>\$000</u>		
Power Supply								
On Peak Billing Demand MW				10	19.565	205		
On Peak Energy Mwh				1,590	0.049	78		
Off Peak Energy Mwh				4,299	0.039	167		
On Peak Capacity MW	10	16.351	161					
Standby kWh-Energy	4,193	0.031	131					
Delivery Charges								
System Access				12	0.100	1		
Max Demand MW				13	4.050	51		
Generator Metering	12	0.100	1					
Contract Capacity MW	13	4.050	51					
Sub-Total			\$344			\$503		
Sales	(1,503)	0.029	(44)					
Total		\$0.076	\$300		\$0.085	\$503		



Large Commercial Customer 1 MW peak demand, CHP 60% annual usage

	Firm Load			GSG-2			100% Load Standard Rate		
	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> \$000	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> \$000	<u>Qty</u>	<u>Rate</u>	<u>Annual</u> <u>\$000</u>
Power Supply									
On Peak Billing Demand MW	5	19.720	100				10	19.565	205
On Peak Energy Mwh	538	0.050	27				1,590	0.049	78
Off Peak Energy Mwh	1,420	0.039	55				4,299	0.039	167
On Peak Capacity MW				6	1.568	9			
Standby kWh-Energy				421	0.034	14			
Delivery Charges									
System Access	12	0.100	1				12	0.100	1
Max Demand MW¹	7	4.050	29				13	4.050	51
Generator Metering				12	0.100	1			
Contract Capacity MW ¹				6	4.050	22			
Sub-Total			\$212			\$46			\$503
Total					\$0.110	\$259		\$0.085	\$503

Note 1: Max Demand + Contract Capacity = 13 MW



Standby Rate Considerations

- Comply with Michigan's cost-based or other statutory requirements
- Should reflect the cost of the service
 - Capacity Reserved and Used
 - Distribution System Ready to Serve
- Not Subsidize any Particular Class
- Fair and Transparent
 - Not Penalize Distributed Generation

